Barry Smith
Iron Dynamics, Inc.
4500 County Road 59
Butler, Indiana 46721

Re: Minor Source Modification No. 033-12756-00076

Dear Mr. Smith:

Iron Dynamics, Inc. applied for a Part 70 operation permit on January 11, 2000 for the rotary hearth furnace. An application to modify the source was received on October 3, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

Ten (10) natural gas-fired low-NOx burners, with a combined heat input of 80 MMBtu per hour, in the existing rotary hearth furnace constructed and operated under Construction Permit CP 033-8091-00043.

The Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). The source may begin operation upon issuance of the source modification approval.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. Pursuant to Contract No. A305-0-00-36, IDEM, OAM has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Amanda Baynham, ERG, P.O. Box 2010, Morrisville, North Carolina 27560, or call (919) 468-7910 to speak directly to Ms. Baynham. Questions may also be directed to Duane Van Laningham at IDEM, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

ERG/AB

cc: File - Dekalb County
Dekalb County Health Department
Air Compliance - Doyle Houser
U.S. EPA, Region V
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 MINOR SOURCE MODIFICATION
OFFICE OF AIR MANAGEMENT

Iron Dynamics, Inc.
4500 County Road 59
Butler, Indiana 46721

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 033-12756-00076	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary iron manufacturing plant.

Responsible Official:	Mark Millett
Source Address:	4500 County Road 59, Butler, IN 46721
Mailing Address:	4500 County Road 59, Butler, IN 46721
Phone Number:	(219) 868-8185
SIC Code:	3312
County Location:	Dekalb
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

Ten (10) natural gas-fired low-NO_x burners, with a combined heat input of 80 MMBtu per hour, in the existing rotary hearth furnace constructed and operated under Construction Permit CP 033-8091-00043. The modified rotary hearth furnace will process iron ore and coal to produce a maximum ninety-six (96) tons per hour of direct reduced iron and will have a heat input of 376 MMBtu per hour.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [40CFR 124]

Pursuant to 40 CFR 124.15, 40 CFR 124.19, and 40 CFR 124.20, the effective date of this permit will be thirty-three (33) days after issuance.

B.4 Revocation of Permits [326 IAC 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of eighteen (18) months or more.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

(b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this approval. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

C.9 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this approval until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.10 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this approval;

(3) The Compliance Monitoring Requirements in Section D of this approval;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of :

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.12 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.13 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this approval;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from an approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Ten (10) natural gas-fired low-NO_x burners, with a combined heat input of 80 MMBtu per hour, in the existing rotary hearth furnace constructed and operated under Construction Permit CP 033-8091-00043. The modified rotary hearth furnace will process iron ore and coal to produce a maximum ninety-six (96) tons per hour of direct reduced iron and will have a heat input of 376 MMBtu per hour. Existing pollutant controls include: an afterburner for CO and VOC, lime injection into the gas stream for SO_2, selective non-catalytic reduction for NO_x, a baghouse with pulse jet fiberglass filter for PM/PM-10 and calcium sulfate (formed during reaction of lime and SO_2). All emissions are exhausted through Stack 40.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the PM/PM10 emissions from the rotary hearth furnace baghouse shall not exceed an air flow rate design of 310,000 dscfm (353,000 acfm) and 0.0052 grains per dscf through stack 40, one hundred (100) feet above ground level. The total per hour emissions shall not exceed 13.4 pounds.

D.1.2 Opacity Limitation - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the visible emissions discharged into the atmosphere from rotary hearth furnace shall be limited to three percent (3%) opacity determined by a six (6) minute average (24 reading taken in accordance with EPA Method 9, Appendix A) pursuant to 326 IAC 5-1-4.

D.1.3 Nitrogen Oxides (NO_x) - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the nitrogen oxide(s) emissions from the rotary hearth furnace shall be controlled by the use of low-NOx natural gas-fired burners and a selective non-catalytic reduction unit. The total emissions per hour shall not exceed 120 pounds.

D.1.4 Carbon Monoxide (CO) - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the carbon monoxide emissions from the rotary hearth furnace shall be controlled by afterburner and operated at a temperature exceeding two thousand six hundred (2,600) ^{o}F and emissions shall not exceed 100 ppm, 114,519 ug/m3. The total emissions per hour shall not exceed 146.8 pounds.

D.1.5 Volatile Organic Compounds (VOC) - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the volatile organic compound emissions from the rotary hearth furnace shall be controlled by an afterburner and operated at a temperature exceeding two thousand six hundred (2,600) ^{o}F and emissions shall not exceed 0.06 pounds per ton of material charged into the furnace. The total emissions shall not exceed 6.23 pounds per hour.

D.1.6 Sulfur Dioxide (SO_2) - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the sulfur dioxide emissions from the rotary hearth furnace shall be controlled by lime injection and shall not exceed 0.75 pounds per

ton of material charged into the furnace. The total emissions per hour shall not exceed 78 pounds.

D.1.7 Lead Emissions - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to CP-033-8091-00043, issued on June 25, 1997, lead emissions from the rotary hearth furnace shall not exceed 0.0021 pounds per hour.

D.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control devices.

Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the baghouse for PM control shall be in operation and control emissions from the rotary hearth furnace at all times the rotary hearth furnace is in operation.

D.1.10 Nitrogen Oxides (NO_x)

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the selective non-catalytic reduction unit for NO_x control shall be in operation and control emissions from the rotary hearth furnace at all times the rotary hearth furnace is in operation.

D.1.11 Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the afterburner for control of carbon monoxide and volatile organic compounds shall be in operation and control emissions from the rotary hearth furnace at all times the rotary hearth furnace is in operation.

D.1.12 Sulfur Dioxide (SO_2)

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the lime injection unit for sulfur dioxide control shall be in operation and control emissions from the rotary hearth furnace at all times the rotary hearth furnace is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.13 Continuous Emission Rate Monitoring Requirement [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5-1(d), the Permittee shall install, calibrate, certify, operate, and maintain a continuous monitoring system for measuring NO_x,, CO, and SO_2 emissions rates in pounds per hour from the rotary hearth furnace stack (identified as stack 40) in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3.

(b) The Permittee shall submit to IDEM, OAM, within ninety (90) days after monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.

(c) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.

Compliance with this condition shall determine continuous compliance with the NO_x, CO, and SO_2 emission limits under operation conditions D.1.3, D.1.4, and D.1.6, respectively.

D.1.14 Visible Emissions Notations

(a) Visible emissions notations of the rotary hearth furnace stack exhaust shall be

performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.15 Parametric Monitoring

The permittee shall record the total static pressure drop across the baghouse used in conjunction with the rotary hearth furnace, at least once per shift when the process is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.16 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the rotary hearth furnace when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.17 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps the timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the

requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.18 Record Keeping Requirements

(a) To document compliance with Condition D.1.14, the Permittee shall maintain records of required under 326 IAC 3-5-6 at the source in a manner such that they may be inspected by IDEM, OAM or U.S. EPA, if requested.

(b) To document compliance with Condition D.1.15, the Permittee shall maintain records of visible emission notations of the rotary hearth furnace stack once per shift.

(c) To document compliance with Conditions D.1.17, D.1.18, and D.1.19, the Permittee shall maintain the following:

(1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchase orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer’s specifications or its equivalent.

(7) Equipment “troubleshooting” contingency plan.

(8) Documentation of the dates vents are redirected.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.19 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1 through D.1.8 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: Opacity and Fugitive Particulate Matter
Limit: 3% Opacity

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: PM/PM10
Limit: 13.4 lb/hr Total Emissions, 0.0052 grains per dscf

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: NO_x
Limit: 120 lb/hr Total Emissions

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: VOC
Limit: 0.06 lb/hr of material charged to furnace and total emissions of 6.23 lb/hr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: CO
Limit: 100 ppm (114, 519 mg/m^3 and total emissions of 146.8lb/hr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: PM/PM10
Limit: 0.0052 grains per dscf and 13.4 lb/hr total emissions

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Iron Dynamics, Inc.
Source Address: 4500 County Road 59, Butler, Indiana 46721
Mailing Address: 4500 County Road 59, Butler, Indiana 46721
Source Modification No.: 033-12756-00076
Facility: Rotary Hearth Furnace
Parameter: SO_2
Limit: 0.75 lb per hour of material charged into the furnace and total emissions of 78 lb/hour

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Minor Source Modification Permit

Source Background and Description

Source Name:	**Iron Dynamics, Inc.**
Source Location:	**4500 County Road 59, Bulter, IN 46721**
County:	**Dekalb**
SIC Code:	**3312**
Operation Permit No.:	**T033-12614-00076**
Operation Permit Issuance Date:	**Not yet issued**
Minor Source Modification No:	**003-12756-00076**
Permit Reviewer:	**ERG/AB**

The Office of Air Management (OAM) has reviewed a Part 70 permit application from Iron Dynamics, Inc. relating to the construction of the following emission units and pollution control devices:

Ten (10) natural gas-fired low-NO_x burners, with a combined heat input of 80 MMBtu per hour, in the existing rotary hearth furnace constructed and operated under Construction Permit CP 033-8091-00043. The modified rotary hearth furnace will process iron ore and coal to produce a maximum ninety-six (96) tons per hour of direct reduced iron and will have a heat input of 376 MMBtu per hour. Existing pollutant controls include: an afterburner for CO and VOC, lime injection into the gas stream for SO_2, selective non-catalytic reduction for NO_x, a baghouse with pulse jet fiberglass filter for PM/PM-10 and calcium sulfate (formed during reaction of lime and SO_2). All emissions are exhausted through Stack 40.

History

On October 3, 2000, Iron Dynamics,Inc. submitted an application to IDEM, OAM requesting to add ten additional burners to their existing rotary hearth furnace. Iron Dynamics Part 70 permit application is currently under review by IDEM, OAM. Iron Dynamics, Inc. is operating the rotary hearth furnace under construction permit CP 033-8091-00043.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
40	Rotary Hearth Furnace	125	10.07	239,003	169

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 3, 2000. Additional information was received on October 24, 2000.

An Interim Construction Permit for modification of the Rotary Hearth Furnace was issued by IDEM on October 24, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations pages 1-2.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the increase in PTE due to the addition of the ten burners, assuming the burners are operated at 8,760 hours per year without emission control equipment. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

	Potential To Emit (tons/year)
PM	2.67
PM-10	2.67
SO_2	0.21
VOC	1.93
CO	29.44
NO_x	49.05

HAP's	Potential To Emit (tons/year)
Benzene	7.4×10^{-4}
Dichlorobenzene	4.2×10^{-4}
Formaldehyde	2.68×10^{-2}
Hexane	6.3×10^{-1}
Toluene	1.19×10^{-3}

HAP's	Potential To Emit (tons/year)
Lead	1.75×10^{-4}
Cadmium	3.80×10^{-4}
Chromium	$4.9\ 10^{-4}$
Manganese	1.33×10^{-4}
Nickel	7.40×10^{-4}
TOTAL	<1

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. Even though the potential to emit before controls is greater than 25 tons per year, this modification is being performed pursuant to 326 IAC 2-7-10.5 (d)(9) because the source will be adding emission units of the same type that are already permitted and will comply with the same applicable requirements and permit terms and conditions as the existing units. Since the Part 70 Operating Permit has not been issued yet, this Part 70 Minor Source Modification Permit is approval to construct and operate the ten additional burners.

County Attainment Status

The source is located in Dekalb County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Dekalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Dekalb County has been classified as attainment or unclassifiable for PM-10, SO_2, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	422
PM-10	399
SO_2	732
VOC	302
CO	4985
NOx	1892

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

(b) These emissions are based upon CP033-9187-00043, issued on March 24, 1998.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 operating permit.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
After Modification	39.304	39.304	136.74	0.359	643.029	550.1	0.672
Before Modification	39.30	39.30	136.70	0.340	643.00	525.6	0.665
Net Emissions	4.0×10^{-3}	4.0×10^{-3}	0.042	0.019	0.029	24.5	6.6×10^{-3}
Rotary Hearth Furnace	4.0×10^{-3}	4.0×10^{-3}	0.042	0.019	0.29	24.5	6.6×10^{-3}

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Pursuant to 326 IAC 2-2-1(3), the emission increase was calculated using the potential emissions for the rotary hearth furnace before the modification instead of the actual emissions because the furnace has not begun normal operations. The facility contact, Mr. Barry Smith, stated in a telephone call on October 24, 2000 that the rotary hearth furnace had been operated at about 25% of its maximum capacity since its installation in 1998 due to technical problems. This modification will not increase the capacity of the furnace and does not alleviate any bottlenecking in any other part of the facility's operations. Throughput for the rotary hearth furnace will remain at 96 tons of product per hour after the modification is completed.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Individual Facilities

326 IAC 2-2-3 (Best Available Control Technology)

The source submitted a BACT analysis for the original construction permit, CP 033-8091-00043, for the rotary hearth furnace. The source intends to comply with emission limitations contained in CP 033-8091-00043 after the current modification is completed. Therefore, the PSD emission limits will not change with this permit. This permit simply adds burners to the rotary furnace and

extends the PSD limits and conditions to these burners. The emission limitations, contained in CP 033-8091-00043, applicable to the rotary hearth furnace are as follows:

Pursuant to CP 033-8091-00043, issued on June 25, 1997, the PM/PM10 emissions from the rotary hearth furnace baghouse shall not exceed an air flow rate design of 310,000 dscfm (353,000 acfm) and 0.0052 grains per dscf through stack 40, one hundred (100) feet above ground level. The total per hour emissions shall not exceed 13.4 pounds.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the opacity from the rotary furnace baghouse shall not exceed three percent (3%) determined by a six (6) minute average (24 readings taken in accordance with EPA Method 9, Appendix A) pursuant to 326 IAC 5-1-4.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the nitrogen oxide(s) emissions from the rotary hearth furnace shall be controlled by the use of low-NOx natural gas-fired burners plus a selective non-catalytic reduction unit. The total emissions per hour shall not exceed 120 pounds.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the carbon monoxide emissions from the rotary hearth furnace shall be controlled by an afterburner and operated at a temperature exceeding two thousand six hundred (2,600) ^{o}F. Emissions shall not exceed 100 ppm, 114,519 ug/m3. The total emissions per hour shall not exceed 146.8 pounds.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the volatile organic compound emissions from the rotary hearth furnace shall be controlled by an afterburner and operated at a temperature exceeding two thousand six hundred (2,600) ^{o}F. Emissions shall not exceed 0.06 pounds per ton of material charged into the furnace. The total emissions shall not exceed 6.23 pounds per hour.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the sulfur dioxide emissions from the rotary hearth furnace shall be controlled by lime injection and shall not exceed 0.75 pounds per ton of material charged into the furnace. The total emissions per hour shall not exceed 78 pounds.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, lead emissions from the rotary hearth furnace shall not exceed 0.0021 pounds per hour.

Pursuant to CP-033-8091-00043, issued on June 25, 1997, the visible emissions discharged into the atmosphere from rotary hearth furnace shall be limited to three percent (3%) opacity determined by a six (6) minute average (24 reading taken in accordance with EPA Method 9, Appendix A) pursuant to 326 IAC 5-1-4.

Compliance Requirements

Permits issued under 326 IAC 2-7are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for

enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The rotary hearth furnace has applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the rotary hearth furnace stack shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(b) Pursuant to 326 IAC 3-5-1(d), the Permittee shall install, calibrate, certify, operate, and maintain a continuous monitoring system for measuring NO_x, CO, and SO_2 emissions rates in pounds per hour from the rotary hearth furnace stack (identified as stack 40) in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. Within ninety (90) days after monitor installation, the Permittee shall submit to IDEM, OAM a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4. The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.

(c) The Permittee shall record the total static pressure drop across the baghouse controlling the rotary hearth furnace, at least once daily when the furnace is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3.0 to 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

(d) In the event that bag failure has been observed:

(i) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(ii) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the emission control devices for the rotary hearth furnace must operate properly to ensure compliance with 326 IAC 2-2-3 (Best Available Control Technology).

Conclusion

The operation of this proposed modification shall be subject to the conditions of the attached proposed Minor Source Modification No. 033-12756-00076.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Increase in Emissions After Installation of Ten Additional Burners

Company Name: **Iron Dynamics, Inc.**
Address City IN Zip: **4500 County Road 59, Butler, IN 46721**
CP: **33-12756-76**
Plt ID: **00076**
Reviewer: ERG/AB
Date: 10/24/00

Heat Input Capacity Prior to Modification	296.0	MMBtu/hr
Potential Throughput Prior to Modificaton	2593.0	MMCF/yr
Heat Input Capacity After Modification	376.0	MMBtu/hr
Potential Throughput After Modificaton	3293.8	MMBtu/hr

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	140.0 **see below	5.5	84.0
Potential Emissions Prior to Modification in tons/y	9.85	9.85	0.78	181.51	7.13	108.90
Potential Emissions After Modification in tons/yr	12.52	12.52	0.99	230.56	9.06	138.34
Increase in Potential Emissions in tons/yr	2.67	2.67	0.21	49.05	1.93	29.44

*PM emission factor is filterable and condensable PM.
**Emission Factors for NOx: Uncontrolled = 280 (pre-NSPS) or 190 (post-NSPS), Low NOx Burner = 140, Flue gas recirculation = 100 (See Table 1.4-1)

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04
(AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 2 for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100

HAPs Emissions

Company Name: **Iron Dynamics, Inc.**
Address City IN Zip: **4500 County Road 59, Butler, IN 46721**
CP: **33-12756-76**
Plt ID: **00076**
Reviewer: ERG/AB
Date: 10/24/00

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission prior to Modification in tons/yr	2.72E-03	1.56E-03	9.72E-02	2.3E+00	4.41E-03
Potential Emission After Modification in tons/yr	3.46E-03	1.98E-03	1.24E-01	2.96E+00	5.6E-03
Increase in Potential Emissions in tons/yr	7.40E-04	4.20E-04	2.68E-02	6.30E-01	1.19E-03

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission Prior to Modification in tons/yr	6.48E-04	1.43E-03	1.82E-03	4.93E-04	2.72E-03
Potential Emission After Modificaton in tons/yr	8.23E-04	1.81E-03	2.31E-03	6.26E-04	3.46E-03
Increase in Potential Emissions in tons/yr	1.75E-04	3.80E-04	4.90E-04	1.33E-04	7.40E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.